

Attorney Docket No AHUG.011
Serial No. 10/633,471

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I. CLAIMS AS AMENDED

1. (Currently amended) An apparatus comprising:

a first tubing section and a second tubing section;

a plug fixedly engaged to a first tubing section proximate end and having a plug center spline, a plurality of plug outer splines, and a plurality of first ~~connectors~~ conduits;

a socket fixedly engaged to a second tubing section distal end and having a socket receptacle, a plurality of socket receptacle splines and a plurality of second conduits;

a securing device for securing the plug to the socket;

wherein the plug may be joined to the socket in a plurality of orientations so that, in each of the plurality of orientations, the plurality of first conduits automatically align with the plurality of second conduits in an alignment; and

wherein the plug center spline, the plurality of plug outer splines and the plurality of first conduits are of unitary construction with each other; and

wherein the socket receptacle, the plurality of ~~receptacles~~ socket receptacle splines and the plurality of second conduits are of unitary construction with each other;

~~wherein the plug center spline forms a cylindrical passage having an inside passage diameter that is the same as an inside plug wall diameter;~~

~~wherein the socket receptacle forms a socket cylindrical passage having a socket cylindrical passage diameter that is the same as an inside diameter of an inside wall of the socket; and~~

wherein a cavity created by the socket receptacle and the plurality of socket receptacle splines is shaped so that the plug center spline and the plurality of plug outer splines will

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intermesh with the socket receptacle and the socket receptacle splines when the plug and socket are plugged together; and

~~wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that the alignment can be achieved in the plurality of orientations~~

wherein the plurality of coarse threads of the socket are tapered.

2. Canceled.

3. (Previously amended) The apparatus of claim 1, wherein the securing device is a coupling collar adapted for connecting the plug and the socket, the coupling collar initially engaged with the plug.

4. (Previously amended) The apparatus of claim 1, wherein the plug further comprises a plurality of fine threads.

5. (Previously amended) The apparatus of claim 1, wherein the socket further comprises a plurality of coarse threads.

6. Canceled.

7. (Previously amended) The apparatus of claim 1, wherein the first tubing section and the second tubing section are connectable in two distinct orientations.

8. (Previously amended) The apparatus of claim 1, wherein the first tubing section and the second tubing section are connectable in three distinct orientations.

9. (Previously amended) The apparatus of claim 1, wherein the first tubing section and the second tubing section are connectable in four or more distinct orientations.

10. (Previously amended) The apparatus of claim 1, wherein the plurality of first conduits and the plurality of second conduits are adapted to receive a plurality of wires, each capable of

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carrying an electrical current, and wherein the plug has an interior lip so that the each of the plurality of wires can pass through each of the plurality of first conduits and into a casing interior.

11. Canceled.

12. Canceled.

13. (Previously amended) The apparatus of claim 1 wherein the first tubing section and the second tubing section are pipe.

14. (Previously amended) The apparatus of claim 1 wherein the first tubing section and the second tubing section are casing.

15. (Previously amended) The apparatus of claim 1 wherein the first tubing section and the second tubing section are used to produce hydrocarbons from a well bore.

16. (Previously amended) The apparatus of claim 1 wherein the first tubing section and the second tubing section are used to produce water from a well bore.

17. (Previously amended) The apparatus of claim 1 wherein the first tubing section and the second tubing section are connectable in a plurality of distinct orientations.

18. (Currently amended) An apparatus for providing power to a subterranean environment, comprising:

a drilling assembly containing a plurality of tubing sections;

a plurality of tubing joints for connecting the plurality of tubing sections together, each

tubing joint comprising:

a plug having a plug center spline and a plurality of plug outer splines and a plurality of first conduits;

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a socket having a socket receptacle, a plurality of socket receptacle splines and a plurality of second conduits;

a securing device for securing the plug to the socket; and

wherein the plug and the socket may be joined in N orientations where N is equal to the number of plug outer splines; and

wherein the plurality of first conduits and the plurality of second conduits are automatically aligned when the plug and the socket are plugged together;

~~wherein the plug, the plug center spline, the plurality of plug outer splines, and the plurality of first conduits are made together in one piece; and~~

~~wherein the socket, the plurality of socket receptacles, the plurality of socket splines, and the plurality of second conduits are made together in one piece;~~

wherein a cavity created by the socket receptacle and the plurality of socket receptacle splines is shaped so that the plug center spline and the plurality of plug outer splines will intermesh with the socket receptacle and the socket receptacle splines when the plug and socket are plugged together; and

wherein the plurality of plug outer splines and the plurality of socket receptacle splines are coaxially symmetric and have the same dimensions so that ~~the an~~ alignment can be achieved in ~~the~~ a plurality of orientations; and

wherein the securing device is a coupling collar adapted for connection to the plug and the socket, the coupling collar initially engaged with the plug.

19. Canceled.

20. Canceled.

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21. (Currently amended) The apparatus of claim 19 18, wherein the plug further comprises a plurality of fine threads.
22. (Currently amended) The apparatus of claim 19 18, wherein the socket further comprises a plurality of coarse threads.
23. (Previously amended) The apparatus of claim 22, wherein the coarse threads of the socket are tapered.
24. (Currently amended) The apparatus of claim 19 18, wherein the plug and the socket are connectable in two distinct orientations.
25. (Currently amended) The apparatus of claim 19 18, wherein the plug and the socket are connectable in three distinct orientations.
26. (Currently amended) The apparatus of claim 19 18, wherein the plug and the socket are connectable in four or more distinct orientations.
27. Canceled.
28. Canceled.
29. Canceled.
30. (Currently amended) The apparatus of claim 19 18 wherein ~~the first tubing section and the second tubing section~~ plurality of tubing sections are pipe.
31. (Currently amended) The apparatus of claim 19 18 wherein ~~the first tubing section and the second tubing section~~ plurality of tubing sections are casing.
32. (Currently amended) The apparatus of claim 19 18 wherein ~~the first tubing section and the second tubing section~~ plurality of tubing sections are used to produce hydrocarbons from a well bore.

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33. (Currently amended) The apparatus of claim ~~19~~ 18 wherein the ~~first tubing section and the second tubing section~~ plurality of tubing sections are used to produce water from a well bore.

34. (Currently amended) The apparatus of claim ~~19~~ 18 wherein the ~~first tubing section and the second tubing section~~ plurality of tubing sections are connectable in a plurality of orientations.

35. Canceled.

36. Canceled

37. Canceled

38. Canceled.

39. Canceled

40. Canceled.

41. Canceled.

42. Canceled.

43. Canceled

44. Canceled.

45. Canceled.

46. Canceled.

47. Canceled.

48. Canceled.

49. Canceled.

50. (Currently amended) An apparatus ~~for connecting a plurality of casing sections together~~
comprising:

a first casing section;

a second casing section removably connected to the first casing section; and

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wherein the first casing section and the second casing section are connectable in a plurality of distinct orientations by engaging a plug affixed to the first casing section and a socket affixed to the second casing section;

wherein in each of the plurality of distinct orientations, a first plurality of conduits are aligned for connectivity with a second plurality of conduits by mating a center spline and a plurality of outer splines with a ~~corresponding plurality of receptacle splines in a cavity formed by a receptacle and the receptacle splines~~ receptacle and a plurality of receptacle splines, wherein the receptacle and the plurality of receptacle splines form a cavity; and

wherein the first plurality of conduits, the plurality of outer splines, ~~a~~ the center spline, and the plug are all one piece, and the second plurality of conduits, the receptacle splines, the receptacle, and the socket are of unitary construction all one piece;

wherein the connection between the first casing section and the second casing section comprises a securing device for securing the plug to the socket; and

wherein the securing device is a coupling collar adapted for connection to the plug and the socket, the coupling collar initially engaged with the plug.

51. Canceled.

52. Canceled.

53. Canceled.

54. (Previously amended) The apparatus of claim 53, wherein the plug further comprises a plurality of fine threads.

55. (Currently amended) The apparatus of claim 53, wherein the socket assembly further comprises a plurality of coarse threads.

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56. (Previously amended) The apparatus of claim 55, wherein the coarse threads of the socket assembly are tapered.

57. (Previously amended) The apparatus of claim 52, wherein the first casing section and the second casing section are connectable in two distinct orientations.

58. (Previously amended) The apparatus of claim 52, wherein the first casing section and the second casing section are connectable in three distinct orientations.

59. (Previously amended) The apparatus of claim 52, wherein the first casing section and the second casing section are connectable in four or more distinct orientations.

60. Canceled.

61. Canceled.

62. Canceled.

63. (Previously amended) The apparatus of claim 52 wherein the first casing section and the second casing section are pipe.

64. Canceled.

65. (Previously amended) The apparatus of claim 52 wherein the first casing section and the second casing section are used to produce hydrocarbons from a well bore.

66. (Previously amended) The apparatus of claim 52 wherein the first casing section and the second casing section are used to produce water from a well bore.